

CLAIMS

We claim:

1. (Currently amended) A device for trapping airborne water or ice particles in a refrigeration unit, comprising:

~~an evaporator including a plurality of coils, and~~

a trapping device disposed between ~~[[said]]~~ an evaporator comprising a plurality of coils and airflow directed toward said evaporator, said trapping device intercepting liquid water or ice particles that would otherwise accumulate on said plurality of coils, said trapping device comprising a bulk filter material, said bulk filter material providing airflow therethrough to said evaporator, wherein at least one metallic element is disposed on a surface or within said filter material, and
a motor for rotating said trapping device.

2. (Original) The device of claim 1, wherein said refrigeration unit is a freezer.

3. (Original) The device of claim 2, wherein said freezer is a walk-in freezer.

4. (Canceled)

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5. (Previously presented) The device of claim 1, wherein said metallic element is a wire.

6. (Canceled)

7. (Currently amended) The device of claim [[6]] 1, further comprising an electrical contact brush, wherein rotation of said trapping device over said contact brush results in electrical contact between said metallic element and said contact brush.

8. (Previously presented) The device of claim 7, further comprising at least one scraper disposed on either side of said electrical contact brush for removing ice from said trapping device.

9. (Previously presented) The device of claim 7 further comprising at least one electrical power source, wherein said metallic element is heated by said power source to melt ice on said filter into water when said contact brush is in electrical contact with said metallic element.

10. (Canceled)

11. (Previously presented) The device of claim 7, wherein said electrical contact brush is spring-loaded.

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12. (Currently amended) The device of claim [[6]] 1, further comprising at least one control unit coupled to said motor for controlling when to initiate rotation of said device, said control unit being at least one selected from the group consisting of a time clock, a differential pressure controller and an optical sensor.

13. (Previously presented) The device of claim 9, further comprising condensate drainage piping, said piping receiving and transferring away said water melted by said heated metallic element.

14. (Previously presented) The device of claim 13, wherein said condensate drainage piping is heat-traced for preventing re-freezing of said water.

15. (Currently amended) A refrigeration system [for trapping airborne water or ice particles in a refrigeration unit, said system]] comprising:

an evaporator including a plurality of coils, and

a trapping device disposed between said evaporator and airflow directed toward said evaporator, said trapping device intercepting liquid water or ice particles that would otherwise accumulate on said plurality of coils, said trapping device comprising a bulk filter material, said bulk filter material providing airflow therethrough to said evaporator, wherein at least one metallic element is disposed on a surface or within said filter material, and

a motor for rotating said trapping device.

16. (Currently amended) A method for trapping airborne water or ice particles in a refrigeration unit, comprising the steps of:

providing a trapping device interposed between an evaporator comprising a plurality of coils and airflow directed toward said evaporator, and

directing said airflow toward said trapping device, wherein said trapping device intercepts liquid water or ice particles that would otherwise accumulate on said plurality of coils, said trapping device comprising a bulk filter material, said bulk filter material providing airflow therethrough to said evaporator, wherein at least one metallic element is disposed on a surface or within said filter material, and

rotating said trapping device during at least one interval of time during operation of said device.

17. (Currently amended) The method of claim 16, ~~further comprising the steps of~~ wherein said rotating step comprises:

rotating said trapping device into a position which completes an electrical circuit including said metallic element, and

flowing electrical current through said metallic element to melt ice that accumulates on said trapping device.

18. (Previously presented) The device of claim 1, wherein said bulk filter material comprises layered fiberglass.

19. (New) The method of claim 16, wherein said rotating step is initiated following receipt of a signal from a control unit, said control unit selected from the group consisting of a time clock, a differential pressure controller and an optical sensor.

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